AERODROME SAFETY PUBLICATION

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Subject: Establishing safety programmes

References: Seychelles Technical Standards – Aerodromes
ICAO Annex 19
ICAO Doc 9870 – Manual on the prevention of runway incursions

Contents

Note – Aerodrome Safety Publications are published by the SCAA to supplement the to the provisions of the Seychelles Technical Standards – Aerodromes. The publications are intended to provide recommendations and guidance to illustrate a means, but not necessarily the only means, of complying with SARPs. Aerodrome Safety Publications may explain certain regulatory requirements by providing interpretive and explanatory materials.

1.   Purpose

1.1.   The purpose of this Aerodrome Safety Publication (ASP) is to provide supplementary provisions to aerodrome operators on the establishment of safety programmes. It provides guidance on what is acceptable to the Aerodromes Safety & Standards Inspectorate (ASSI) of the Seychelles Civil Aviation Authority (SCAA) to demonstrate compliance with the requirement to establish safety programs in STS-ADR 5.8.

2.   Applicability

2.1.   This ASP applies to all aerodrome operators subjected to Regulation 61 of the Civil Aviation (Safety) Regulations, 2017 and the Seychelles Technical Standards - Aerodromes.

2.2.   Operators of aerodromes that are outside the scope of Regulation 61 of the Civil Aviation (Safety) Regulations, 2017 are highly encouraged to implement the provisions of this ASP.

3.   Cancellation

3.1.   Nil

4.   Introduction

4.1.   ICAO defines safety as *the state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level*. Safety programmes are intended to promote safety at aerodromes and provide platforms for organizations operating or providing services at an aerodrome to participate and provide input in the management of safety at the aerodrome.

4.2.   This ASP focuses on the establishment of aerodrome safety committees. Aerodrome operators are encouraged to include other activities in their respective safety programmes, taking into consideration the size of their aerodrome, and scope and complexity of their operations.

5.   Definitions

5.1.   Hot spot
A location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

5.2.   Runway safety team (RST)
A team comprised of representatives from aerodrome operations, air traffic services providers, airlines or aircraft operators, pilot and air traffic controller's association and any other group with a direct involvement in runway operations that advise the appropriate management on the potential runway incursion issues and recommend mitigation strategies.

5.3. Runway incursion
Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

5.4. Runway excursion
A veer off or overrun off the runway surface.
(A runway excursion occurs when an aircraft veers off or overruns the runway surface during take-off or landing. An excursion may be intentional or unintentional)

5.5. Safety information
Safety data processed, organized or analysed in a given context so as to make it useful for safety management purposes.

6.   Safety programmes

STS-ADR 5.8.5. The operator of a certified aerodrome shall establish a safety program, in order to achieve an acceptable level of safety in aerodrome operations and a plan to facilitate SMS implementation.

6.1. Aerodrome operators should establish, lead and implement programmes to promote safety at the aerodrome. Such programmes should include, but are not limited to:

   i.   runway safety, including runway incursion and excursion prevention;
   ii.   apron safety; and
   iii.   FOD prevention.

6.2. Aerodrome operators should coordinate and promote the exchange of safety information, and the joint investigation of occurrences, serious incidents, and accidents.

6.3. Aerodrome operators should encourage organizations operating or providing services at the aerodrome to be involved in such programmes.

6.4. Aerodrome operators should establish, coordinate, and lead aerodrome safety committees, and a Runway Safety Team, dealing with runway safety, apron safety, and the safety of the operations at their aerodrome in general. All relevant organisations operating or providing services at the aerodrome should participate in such aerodrome safety committees and the Runway Safety Team.

6.5. The aerodrome safety committees and the Runway Safety Team should convene regularly, identify and review safety issues, and examine possible solutions, and need for action. Minutes of such meetings should be kept. Procedures relevant to the functioning of aerodrome safety committees and the Runway Safety Team should be included in the aerodrome manual.

7. Aerodrome Safety Committees

7.1. Movement Area Safety Committee

7.1.1. Aerodrome operators should establish a Movement Area Safety Committee(s). This committee(s) should have an advisory role to the aerodrome operator.

7.1.2. Movement Area Safety Committee(s) should be chaired by an aerodrome operator's official, responsible for aerodrome operations. The aerodrome operator's safety manager should act as the secretary of the committee(s).

7.1.3. The Movement Area Safety Committee(s) should comprise of representatives from, but not limited to:

    i.   aerodrome operations;
    ii.   aerodrome users active in flight operations;
    iii.   aircraft ground handling services providers;
    iv.   aerodrome rescue and firefighting services;
    v.   aerodrome wildlife management;
    vi.   aerodrome maintenance; and
    vii.   air navigation service provider(s).

7.1.4. The tasks of the Movement Area Safety Committee(s) should include:

    i.   to receive and evaluate reports on operational safety issues;

    ii.   to receive reports and statistical information on accidents and incidents, and propose solutions;

    iii.   to advise on movement areas safety issues such as:

        (a) promotion of apron safety discipline;

        (b) FOD prevention;

        (c) developing measures for safe operations;

        (d) considering actions to resolve movement areas safety problems;

        (e) apron equipment issues;

        (f) adherence to vehicle traffic issues;

        (g) new and/or updated safety instructions;

        (h) personal protective clothing/equipment issues;

        (i) methods to develop and promote apron safety awareness initiatives,

        (j) proposed aerodrome works;

        (k) proposed changes/developments to the movement area;

        (l) standard operating procedures, etc.

7.2. Runway Safety Team

7.2.1. As part of its runway safety programme, an aerodrome operator shall establish and lead a Runway Safety Team and act on runway safety issues, including runway incursion (including runway confusion) and excursion prevention.

7.2.2. A Runway Safety Team should comprise of representatives from;

      i.   aerodrome operations;
      ii.   aerodrome engineering and maintenance;
      iii.   air traffic service providers;
      iv.   airlines or aircraft operators;
      v.   aerodrome rescue and firefighting services;
      vi.   pilot and air traffic controller associations; and
      vii.   any other groups with a direct involvement in runway operations.

7.2.3. The role of a Runway Safety Team is to advise the appropriate management on potential runway safety issues, and to recommend mitigating measures.

7.2.4. Aerodrome operators should decide on and document the terms of reference for runway safety teams. A suggested generic term of reference is provided in ICAO Doc 9870 (Manual on the Prevention of Runway Incursions).

7.2.5. A Runway Safety Team may have the following tasks:

      i.   identification of potential runway safety issues, including the need for establishment of hot spots or other problem areas at the aerodrome and the review of the relevant entries of the AIP for accuracy;

      ii.   developing and running awareness campaigns, at suitable periods, including at the start of a busy season or before an unusual event, that focus on issues, for example, producing and distributing hot spot maps, or other guidance material considered as necessary; awareness campaigns should be periodically refreshed to maintain interest and operational awareness of the relevant personnel;

      iii.   monitoring the number, type and, the severity of runway incursions; disseminating safety recommendations delivered from accident and incident investigation findings as well as other relevant lessons learned e.g. from operational experience and best risk mitigation practices; sharing good practices to prevent runway incursions or excursions;

      iv.   assisting in verifying that communications between air traffic controllers, or other Air Traffic Services personnel, pilots, and vehicle drivers are satisfactory, or if any improvements could be suggested;

      v.   making observations on a regular basis in different weather and light conditions to assess whether all runway entrances and visual aids are adequate, correctly located and understandable by all parties concerned, with no possible ambiguity of their meaning, or identify

potential aerodrome design issues;

vi.   understanding the operating difficulties of personnel working in other areas, and recommending areas for improvement; when reviewing operating procedures, it is necessary to ensure that the procedures employed by different companies at the aerodrome are integrated and effective, so as to minimize the risk of runway incursions. Care should be taken when examining existing or proposed runway capacity enhancing procedures or noise abatement schemes involving runway preferential systems;

vii.   development of joint, initial and recurrent, training programmes and familiarization on runway incursion and excursion prevention, for all relevant personnel (vehicle drivers and other personnel operating on the manoeuvering area, pilots, Air Traffic Services personnel); this may include visits to the manoeuvering area to increase awareness of the aerodrome layout, markings, signs, position of anemometers etc., where this is considered necessary;

viii.   providing advice prior to the implementation of changes to the aerodrome, practices and procedures to identify potential for runway incursion or excursion; and

ix.   assessing the effectiveness of implemented operational solutions periodically.

7.2.6. Taking into consideration the overall number, type and severity of runway incursions, the team should establish goals that will improve the safety of runway operations. Examples of possible goals are:

i.   to improve runway safety data collection, analysis and dissemination;

ii.   to check that signage and markings are ICAO-compliant and visible to pilots and drivers;

iii.   to develop initiatives for improving the standard of communications;

iv.   to identify potential new technologies that may reduce the possibility of a runway incursion;

v.   to ensure that procedures are compliant with National requirements and in the absence of these, ICAO Standards and Recommended Practices (SARPs); and

vi.   to initiate local awareness by developing and distributing runway safety education and training material to controllers, pilots and personnel driving vehicles on the aerodrome.

8. Ensuring effectiveness of aerodrome safety committees

8.1.1. The following shall be performed by the Runway Safety Team to ensure effectiveness of the teams. These should also be performed by the other aerodrome safety committees.

i. Action items

A plan containing action items for mitigating safety deficiencies should be developed. Action items should be aerodrome specific and linked to a safety concern, issue or problem at that aerodrome. Action items may include suggested changes to the physical features of, or facilities at, the aerodrome; air traffic control procedures; airfield access requirements; pilot and vehicle operator awareness; and production of hot spot maps.

ii. Responsibility for tasks associated with action items

Each action item should have a designated person or organization which is responsible for completing the relevant tasks. There may be more than one person or organization affected by an action item; however, one person or organization should take the lead and be responsible for the completion of all the tasks associated with the action item. A realistic time frame to accomplish the work should also be associated with each action item.

iii. Effectiveness of action items

Periodically the effectiveness of implemented and/or completed action items should be assessed. This can be accomplished by comparing the results of the initial analysis and the current status. For example, if an action item was to provide training for controllers, pilots or vehicle drivers, the effectiveness of such training should be evaluated by the team. If the analysis shows little or no improvement in the number, type or severity of runway incursions, the team should re-evaluate the implementation of that action item.

Note – This is of particular importance for runway incursions.

iv. Education and awareness

Education and awareness material such as newsletters, posters, stickers and other educational information are invaluable tools for reducing risks and hazards on aerodromes and in aerodrome operations. The ICAO runway safety toolkit, discussed in Appendix J of ICAO Doc 9870, provides a wealth of information for educational and awareness programmes.

Other awareness materials that may be helpful to aerodrome safety committees are available from:

➢ Airports Council International (ACI)
www.airports.org

➢ Air Services Australia
www.airservicesaustralia.com

➢ European Organisation for the Safety of Air Navigation (EUROCONTROL)
www.eurocontrol.int/runwaysafety/public/subsitehomepage/homepage.html

➢ Federal Aviation Administration (FAA)
www.faa.gov/runwaysafety

➢ International Air Transport Association (IATA)
www.iata.org

➢ International Civil Aviation Organization (ICAO)
www.icao.int/fsix/res_ans.cfm

➢ International Federation of Airline Pilots' Associations (IFALPA)
www.ifalpa.org

➢ Transport Canada
www.tc.gc.ca/civilaviation/systemsafety/posters/tools.htm

➢ United Kingdom Safety Regulation Group
http://www.caa.co.uk

9.   Hot spots

9.1.1. Once hot spots have been identified at an aerodrome, suitable strategies should be implemented to remove the hazard and, when this is not immediately possible, to manage and mitigate the risk.

9.1.2. Strategies to manage and mitigate the risk from hot spots, depending on the case, may include, but are not limited to:

i.   awareness campaigns;
ii.   additional visual aids (signs, markings, and lighting);
iii.   establishment of alternative routings;
iv.   introducing changes to the design of parts of the aerodrome; and
v.   the mitigation of blind spots in the aerodrome control tower.

9.1.3. Aerodrome charts showing hot spot locations are to be produced, checked regularly for accuracy, revised as needed, distributed locally, and published in the AIP. The criteria used to establish and chart a hot spot are contained in SIA Aerodrome Control Standing Instructions and STS-AIS/ACS, Subparts I and J respectively.

Examples of how hot spots are shown on charts are provided in Figures 1, 2, and 3 below.

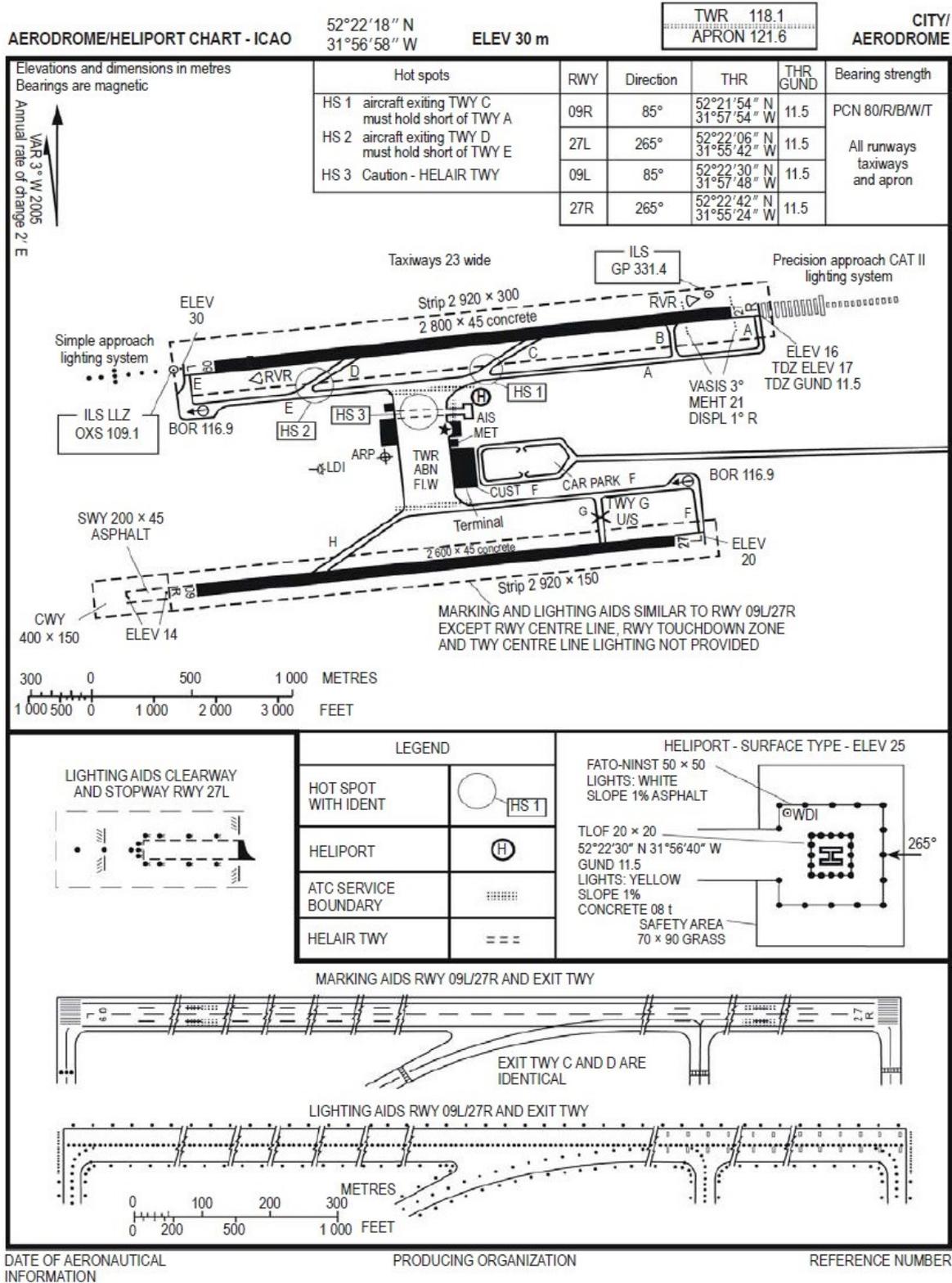Figure 1: Sample Aerodrome / Heliport Chart - ICAO
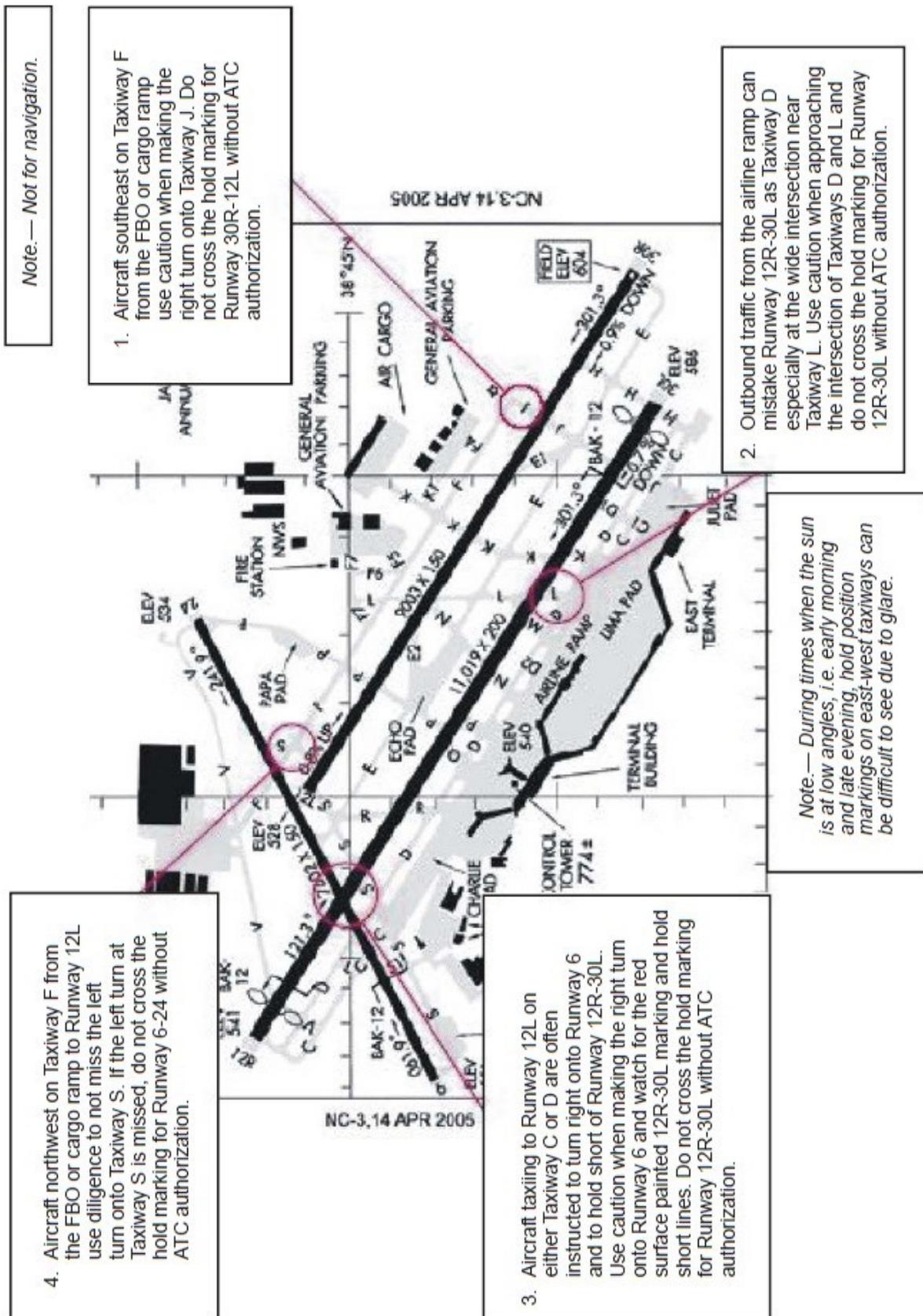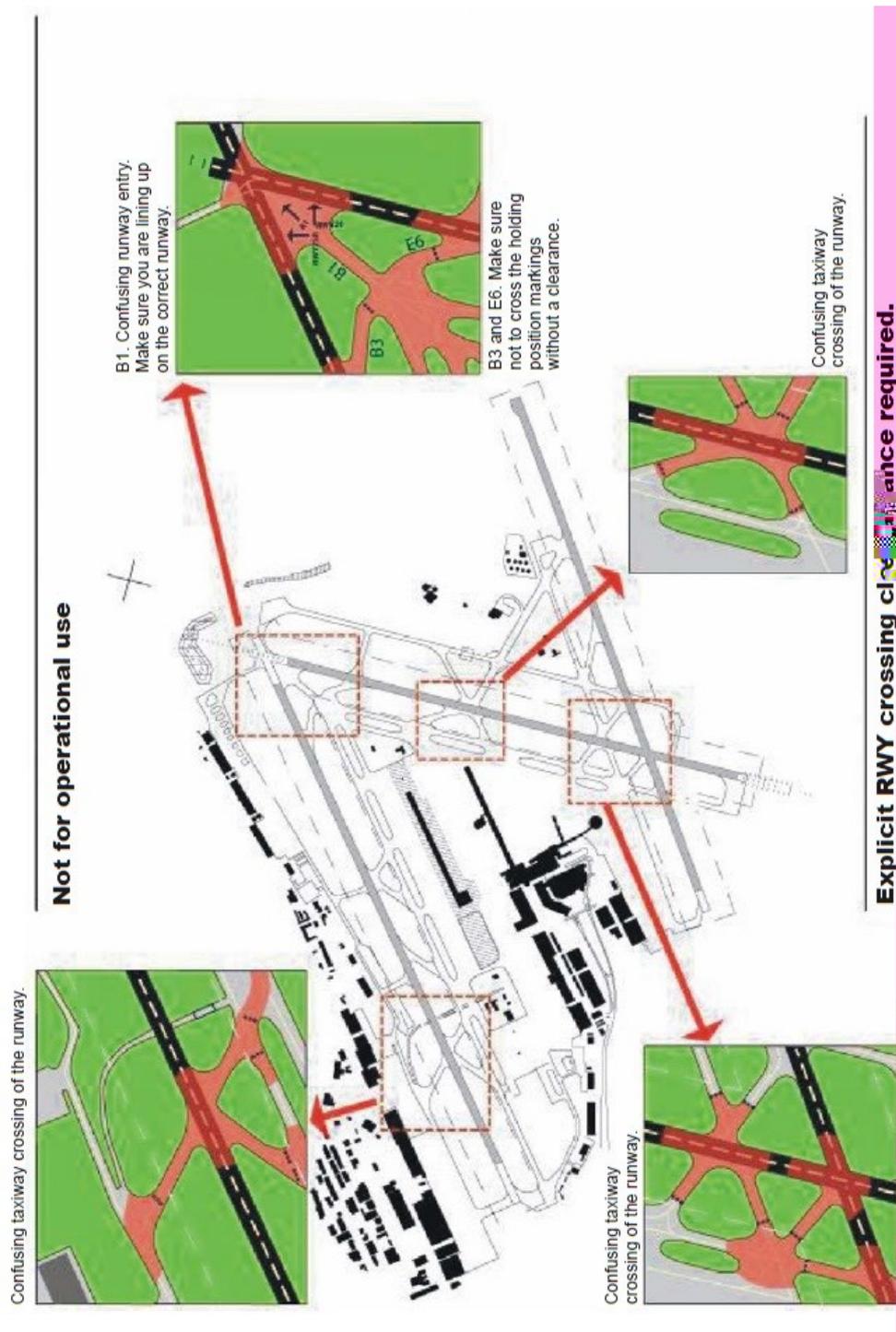
Figure 2: Example of hot spot information

Note.— Not for navigation.

1. Aircraft southeast on Taxiway F from the FBO or cargo ramp use caution when making the right turn onto Taxiway J. Do not cross the hold marking for Runway 30R–12L without ATC authorization.

2. Outbound traffic from the airline ramp can mistake Runway 12R–30L as Taxiway D especially at the wide intersection near Taxiway L. Use caution when approaching the intersection of Taxiways D and L and do not cross the hold marking for Runway 12R–30L without ATC authorization.

Note.— During times when the sun is at low angles, i.e. early morning and late evening, hold position markings on east-west taxiways can be difficult to see due to glare.

3. Aircraft taxiing to Runway 12L on either Taxiway C or D are often instructed to turn right onto Runway 6 and to hold short of Runway 12R–30L. Use caution when making the right turn onto Runway 6 and watch for the red surface painted 12R–30L marking and hold short lines. Do not cross the hold marking for Runway 12R–30L without ATC authorization.

4. Aircraft northwest on Taxiway F from the FBO or cargo ramp to Runway 12L use diligence to not miss the left turn onto Taxiway S. If the left turn at Taxiway S is missed, do not cross the hold marking for Runway 6-24 without ATC authorization.

Figure 3: Example of hot spot detail

10. Queries

10.1. Any queries relating to this ASP should be addressed to Head of Aerodrome Safety & Standards Inspectorate on seyaga@scaa.sc

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